Middlebury Mechanics Lib.

AMERICAN RAILROAD JOURNAL,

AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY AND MINES.

ESTABLISHED 1831.

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AMERICAN RAILROAD JOURNAL.
OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	.....	$125 00
One column	"	50 00
One square	"	15 00
One page per month	.....	20 00
One column	"	8 00
One square	"	2 50
One page, single insertion	.....	8 00
One columnn	" "	3 00
One square	" "	1 00
Professional notices per annum	.....	5 00

BOSTON AND PROVIDENCE RAILROAD. Passenger Notice. Summer Arrangement. On and after Monday, Sept. 28, 1846, the Passenger Trains will run as follows:

For New York—Night Line, via Stonington. Leaves Boston every day, but Sunday, at 5 p.m.

Accommodation Trains, leave Boston at 7½ a.m. and 3½ p.m., and Providence at 8 a.m. and 3½ p.m.

Dedham trains, leave Boston at 9 a.m.; 3 p.m., 5½ p.m., and 10½ p.m. Leave Dedham at 8 a.m. and 4½ and 9 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 4·10 p.m. Leave Stoughton at 8 a.m. and 2½ p.m.

All baggage at the risk of the owners thereof.

31 1y W. RAYMOND LEE, *Sup't.*

BRANCH RAILROAD and STAGES Connecting with the Boston and Providence Railroad.

Stages connect with the Accommodation trains at the Foxboro' Station, to and from Woonsocket. At the Seekouk Station, to and from Lonsdale, R. I. via Pawtucket. At the Sharon Station, to and from Walpole, Mass. And at Dedham Village Station, to and from Medford, via Medway, Mass. At Providence, to and from Bristol, via Warren, R. I.—Taunton, New Bedford and Fall River cars run in connection with the accommodation trains.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m.

Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 351y

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

SUMMER ARRANGEMENT,
April 1, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 5 P.M.
Leave Great Falls at 6½ A.M.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 6·20 P.M.
Leave Haverhill at 6½ A.M. and 4½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 8½ P.M.
Leave Reading at 6 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, 11½ A.M., 2½, 5½, 7 P.M.
Leave Medford at 6½, 8 A.M., 1½, 4½, 6 P.M.

The Depot in Boston is on Haymarket Square.

Passengers are not allowed to carry Baggage above $50 in value, and that *personal*, unless notice is given, and an extra amount paid, at the rate of the price of a Ticket for every $500 additional value.

1y31 CHAS. MINOT, *Sup't.*

SUMMER ARRANGEMENT.—NEW YORK AND ERIE RAILROAD LINE, from April 1st until further notice, will run daily (Sundays excepted) between the city of New York and Middletown, Goshen, and intermediate places, as follows:

FOR PASSENGERS—
Leave New York at 7 A.M. and 4 P.M.
" Middletown at 6½ A.M. and 5½ P.M.

FARE REDUCED to $1 25 to Middletown—way in proportion. Breakfast, supper and berths can be had on the steamboat.

FOR FREIGHT—
Leave New York at 5 P.M.
" Middletown at 12 M.

The names of the consignee and of the station where to be left, must be distinctly marked upon each article shipped. Freight not received after 5 P. M. in New York.

Apply to J. F. Clarkson, agent, at office corner of Duane and West sts. H. C. SEYMOUR, Supt.
March 25th, 1846.

Stages run daily from Middletown, on the arrival of the afternoon train, to Milford, Carbondale, Honesdale, Montrose, Towanda, Owego, and West; also to Monticello, Windsor, Binghamton, Ithaca, etc., etc. Agent on board. 13 tf

NORWICH AND WORCESTER RAILROAD. Summer Arrangement, commencing Monday, April 6, 1846.

Accommodation Trains, daily, except Sunday. Leave Norwich, at 6 a.m., and 4½ p.m. Leave Worcester, at 10 a.m., and 4½ p.m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 1½ p.m. train from Boston.

New York Train via Long Island Railroad.

Leave Allyn's Point for Boston, about 1 p.m., daily, except Sunday.

Leave Worcester for New York, about 10 a.m., stopping at Webster, Danielsonville, and Norwich.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 4½ p.m., daily, except Sunday, stopping at Webster, Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J W. STOWELL, Sup't

TROY RAILROADS.—IMPORTANT NOtice.—Troy and Greenbush Railroad, forming a continuous track from Boston to Buffalo and Saratoga Springs.

This road is new, and laid with the heaviest iron H rail. Trains will always be run on this road connecting at Greenbush each way with the trains to and from *Boston* and intermediate places, leaving Greenbush daily at 1½ p.m. and 6 p.m., or on arrival of the trains from Boston; leave Troy at 7½ a. m. and 4½ p.m., or to connect with trains to *Boston*

Trains also run hourly on this road between Troy and Albany. Running time between Greenbush and Troy, 15 minutes.

TROY AND SCHENECTADY RAILROAD.

This road is laid its entire length with the heaviest H rail- which is not the fact with the road from Albany. Trains will always be run on this road connecting each way, to and from Buffalo and intermediate places. Leave Troy for Buffalo at 7½ a.m. and 1 p.m. and 6½ p.m., or to connect with the trains for the west; leave Schenectady at 2½ a.m., 8½ a.m., 1 p.m. and 3½ p.m., or on arrival of the trains from Buffalo and intermediate places.

TROY AND SARATOGA RAILROAD.

THE ONLY DIRECT ROUTE.

No change of passenger, baggage or other cars on this route. Cars leave Troy for Ballston, Saratoga Springs, Lake George and White Hall at 7½ a.m., (arriving one hour in advance of the train from Albany,) and at 3½ p.m. Returning, leave Saratoga at 9 a.m. and 3½ p.m., (reaching Troy in time for the evening boats to New York.) Cars also leave Troy for the Burrough at 3½ p.m. and 7 p.m., connecting with packet boats for the north. This takes passengers from New York and Boston to Montreal in 44 hours.

N.B. Travellers will find the routes through Troy most convenient and economical, and as expeditious as any other. The steamboats to and from New York land within a few steps of the railroad office, and passengers are taken up and landed by the different railroad lines at the doors of principal hotels, thus saving all necessity for, and annoyance from, hack drivers, cabmen, runners, etc.

Aug. 3, 1846. 1y 32

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by

JOHN A. ROEBLING, *Civil Engineer*,
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 2v19 1y

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BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and 3½ p.m.
Arrives at	9 a.m. and 6½ p.m.
Leaves York at	5 a.m. and 3 p.m.
Arrives at	12½ p.m. and 8 p.m.
Leaves York for Columbia at	1½ p.m. and 8 a.m.
Leaves Columbia for York at	8 a.m. and 2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at ..... 5½ p.m.
Returning, leaves Owing's Mills at ..... 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil)	$1 50 per barrel.
On brls. dry (except lime)	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery	40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons	$5 00 per hhd.
On molasses and oil	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

NEW YORK & HARLEM RAILROAD CO.—Winter Arrangement.

On and after Monday, November 23, 1846, the cars will run as follows:

Leave 27th street for 42d street, Deaf and Dumb Institute, Yorkville, Harlem Morrianna, and Williams' Bridge, at 7 o'clock a.m. From City Hall for above named places, 2 p.m. [freight train,] 2 30 p.m. 5 p.m. to Morrisiania only.

Leave City Hall for Harlem, Morrisiania, Fordham and Williams' Bridge, at 7 45 a.m., and 10 45 a.m.; 1 15 p.m., 2 p.m. [freight train], 2 30 p.m. and 3 45 p.m.

Leave City Hall for Hunt's Bridge, Bronx, Tuckahoe, Hart's Corners White Plains, Davis' Brook, Unionville and Pleasantville, [Pleasantville 4 miles from Sing Sing,] 7 45 and 10 45 a.m.; 1 15 p.m., 2 p.m. [freight train], and 3 45 p.m.

RETURNING.

Leave Pleasantville, at 8, 10, [freight train], and 11, a.m.; 1 30, and 4, p.m.

Leave White Plains, at 8 12, 10 30, [freight train] and 11 20 a.m.; 1 50, and 4 20, p.m.

Leave Tuckahoe, 8 35, 10 55, [freight train,] and 11 35, a.m.; 2 05, and 4 35, p.m.

Leave Williams' Bridge at 7 45, 8 50 and 11 50 a.m.; 2 20, 4, and 4 50 p.m.

Leave Morrisiania 8 and 9 05 a.m.; 12 05, 2 35, 4 20, 5 05 and 6 p.m.

Leave Yorkville, at 8 12 a.m.; 4 35 and 6 15 p.m.

SUNDAY ARRANGEMENTS.

Leave City Hall for Pleasantville and intermediate places, at 7 45 a.m.; 1 15 and 3 p.m.

Leave Pleasantville for City Hall, at 8 a.m.; 11, and 3 15 p.m.

Leave City Hall for Williams' Bridge and intermediate places, 10 45 a.m.; 2 30 p.m.

Leave Williams' Bridge for City Hall, at 8 50 and 11 50 a.m.; 1, 3 45 and 4 05 p.m. 1y49

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD—1847.

Winter Arrangement.

Philadelphia for Baltimore...8 a.m. and 4 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.

Connecting in Baltimore with Mail Lines south and west, as per notice of the Baltimore and Ohio Railroad—and with Mail Lines north from Philadelphia, both morning and afternoon.

Sundays, the *Morning* Lines do not run in either direction.

Accommodation train from Wilmington to Philadelphia, leaves Wilmington at 8 a.m., and returns at 2 p.m. J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD, FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO OOTHCALOGA, 80 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 388 miles in length, from Charleston to Oothcaloga on the Oostenaula River, in Cass Co., Georgia.

RATES OF FREIGHT.		Between Augusta and Oothcaloga, and Dalton. 250 miles.	Between Charleston, Oothcaloga and Dalton. 396 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot	$0 16	$0 26
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc	0 45	0 70
	Cotton, per 100 lbs	0 45	0 65
	Molasses, per hogshead	8 50	13 50
	" " barrel	2 00	3 25
	Salt per bushel	0 17	
	Salt per Liverpool sack		95
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows	0 75	1 37

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight may be paid at Augusta, Atlanta, or Oothcaloga.

J. EDGAR THOMSON,
Ch. Eng. and Gen. Agent.
Augusta, Sept. 2d, 1846. *44 1y

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlantic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd. (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

LITTLE MIAMI RAILROAD.—OPEN TO SPRINGFIELD—Distance 84 miles—connecting at Xinia and Springfield with Messrs. Neil, Moore, & Co's. daily daylight lines of stages going east and north, to Columbus, Zanesville, Wheeling, Cleveland, and Sandusky City. via Urbana, Bellefontaine, Kenton, and the Mad river and lake Erie railroad, or Columdus, Delaware, and the Mansfield and Sundusky City railroad—forming, by these connections, the cheapest and most expeditious route to Buffalo, Niagara Falls, Rochester, Albany, New York, and Boston.

On and after Thursday, August 13, 1846, until further notice, a Passenger train will run as fllows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Old Town, Yellow Springs, and Springfield.

Returning, will leave Springfield at 4 hours 35 minutes A. M. A line of Hacks runs in connection with the Cars, between Deerfield and Lebanon.

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 8 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company, on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

The 1½ P. M. train from Cincinnati, and the 2 40 P. M. train from Xenia, will be discontinued on and after Monday, the 10th instant.

A freight train will run daily.
47tf W. H. CLEMENT, *Sup't.*

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.
1y25 JOHN KING, Jr, *Agent.*

RAILWAY IRON.—THE BEST QUALITY of English Heavy H Rails—60 lbs. to the yard—now in store, landing from the vessel, and on ship board to arrive, for sale on most favorable terms by
DAVIS, BROOKS & CO.,
Jan. 2. [1tf] 68 Broad St., New York.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

RAILROAD IRON.—THE SUBSCRIBER'S New Rail Iron Mill at Phœnixville, Pa., is expected to be ready to go into operation by the 1st of September, and will be capable of turning out 30 to 40 tons or finished Rails per day. They are now prepared to receive orders to that extent, deliverable after the 1st of Octobet next, for heavy rails of any pattern now in use, equal in quality and finish to best imported.

PIG IRON.—They are also receiving weekly 150 to 200 tons of No. 1 Phœnix Foundry Iron, well adapted for light castings.

REEVES, BUCK & CO,
45 North Water St., Philadelphia,
or by their Agent, ROBT. NICHOLS,
28tf 79 Water St., New York.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

THE SUBSCRIBERS, AGENTS FOR the sale of Codorus, Glendon, Spring Mill and Valley, Pig Iron.

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay orders for which are promptly supplied.

SAM'L. KIMBER, & CO.,
59 North Wharves,
Jan. 14, 1846. [1y4] *Philadelphia, Pa.*

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO.,
Agents.
1y48 77 Pine St., New York.

RAILWAY IRON.—DAVIS, BROOKS & Co., No. 68 Broad Street, have now in port on Ship-board, 200 Tons of the best English heavy H Rails, 60 lbs. to the lineal yard, which they offer for sale on favorable terms, *also*, about 6 to 700 Tons now on the way, to arrive shortly, of the same description of Rail. 46tf

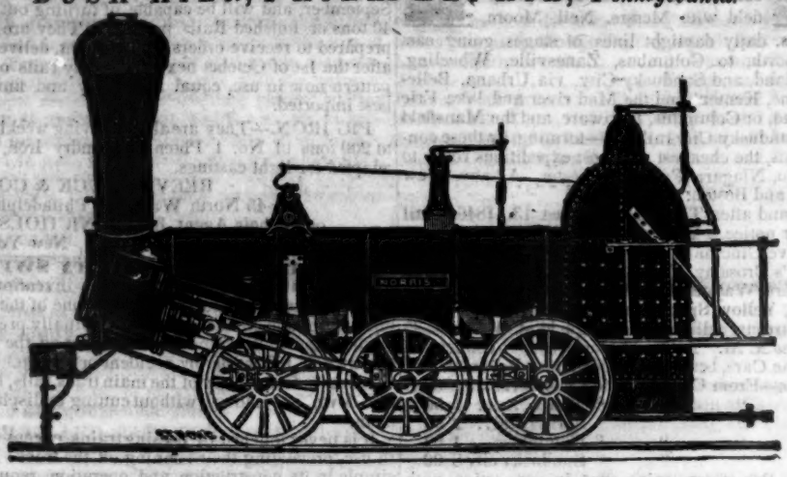
PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by
A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

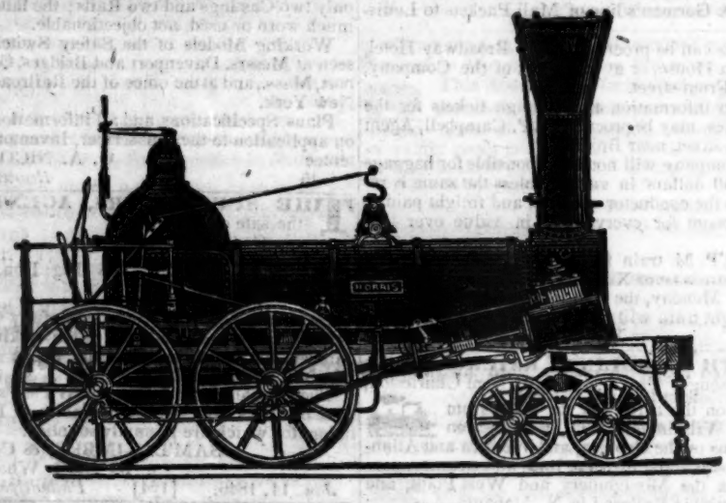
THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER, 17 Burling Slip.
1y10 New York.

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.





MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15	inches	Diameter	of	Cylinder,	× 20	inches	Stroke.
"	2,	14	"	"	"		× 24	"	"
"	3,	14½	"	"	"		× 20	"	"
"	4,	12½	"	"	"		× 20	"	"
"	5,	11½	"	"	"		× 20	"	"
"	6,	10½	"	"	"		× 18	"	"

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion.

Castings of all kinds made to order: and they call attention to their Chilled Wheels, for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

KEARNEY FRIE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, 4 mos. from delivery of brick on board. Refer to

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New Jersey Malleable Iron Co., Newark N. J
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25,000 to 30,000 made weekly. 35

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

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ANDREW C. GRAY,
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A. & G. RALSTON
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VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 fe. with lathes, work benches,

Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side o Parker st., containiug 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

For terms, apply to HENRY ANDREWS, 48 State st., or to CURTIS, LEAVENS & CO., 106 State st., Boston, or to A. & G. RALSTON & Co., Philadelphia. ja45

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2300 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.

Manufactured and for sale by

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TO LOCOMOTIVE AND MARINE ENGINE Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

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PATENT INDESTRUCTIBLE WATER Pipes. The subscribers continue to manufacture the above PIPES, of all the sizes and strength required for City or Country use, and would invite individuals or companies to examine its merits.—This pipe, unlike cast iron and lead, imparts neither color, oxide or taste, being formed of strongly riveted sheet iron, and evenly lined on the inside with hydraulic cement. While in the process of laying, it has a thick covering externally of the same—thus forming nature's own conduit of stone. The iron being thoroughly enclosed on both sides with cement, precludes the possibility of rust or decay, and renders the pipe truly *indestructible*. The prices are less than those of iron or lead. We also manufacture Basons and D. Traps, for Water Closets, on a new principle, which we wish the public to examine at 112 Fulton street, New York.

28tf J. BALL & CO.

REPORT OF THE ENGINEER OF THE NASHVILLE AND CHATTANOOGA RAILROAD.

AUGUSTA, (GA.) February 14, 1847.

To the Commissioners of the Nashville and Chattanooga Railroad:

GENTLEMEN: I have the pleasure to communicate to you the results obtained from a survey, made at your request, during the past summer and autumn, with a view to ascertain the practicability and probable cost of constructing a railroad between Chattanooga and Nashville.

The survey was commenced at Chattanooga, the Northwestern Depot of the Georgia improvements, which, after turning the southern extremity of the Alleghenies, here terminate upon the banks of the Tennessee—690 feet above, and 430 miles from the Atlantic, and at the base of the second series of mountain ranges, that separate the Atlantic from the Western States. A direct line from this point to Nashville would cross these mountains nearly at right-angles; and pass a short distance north of Murfresboro. Upon such a route, or any line approximating very near to it, there would be almost insurmountable difficulties to overcome. It will be seen, however, from the following brief description of the topography of the several mountain ranges composing this series, that a route may be obtained through them, which though circuitous, is not only entirely practicable, but upon which a road can be constructed, at a cost which, from the character of the obstacles encountered, will be considered quite low.

The Lookout mountain, which is the first encountered, is but an out-lyer of the main chain, commencing abruptly at the Tennessee river, and rising much above the others, stretches in an unbroken line to the Coosa in Alabama—forming an impassible barrier to the construction of a railroad upon any route between the banks of these streams.

The second is a spur of the Cumberland, from which it is separated by the Sequatchee river. The Tennessee, instead of following what would seem to be its natural channel to the Gulf, through Lookout and Wills' vallies, severs this spur, leaving that portion known as Waldin's ridge on the north, and Raccoon mountain on the south, opening a passage along its banks for a railroad between them. Thence it follows a course parallel to its previous general direction to Gunter's landing, where it turns the southern extremity of the main Cumberland, and enters the Ohio near its mouth. In addition to the gorge through which the Tennessee forces its circuitous channel, the Raccoon mountain is cut by a deep defile leading from Lookout into Running Water valley, along which the Old Federal road, from Augusta to Nashville, formerly passed. The summit of this pass is but 338 feet above Chattanooga, and will afford a practicable line over it.

The main Cumberland is the last of the series, and offers the greatest obstacle to a direct route. Within the range of our examinations its summit is covered by extensive table lands, averaging about 2000 feet above the ocean; this uniform elevation is preserved until we reach the head waters of Crow creek, where a depression occurs of about 700 feet, known in the vicinity as Montgomey's Gap, eight miles east of Winchester. The elevation of this Gap is 1365 feet above the Atlantic, and but 200 yards wide on top, with steep declivities on each side admitting the passage of a railroad by means of a short tunnel, 209 feet below its apex.

From this general view of the features of the mountain ranges it will be perceived that the route of the railroad must either cross the Tennessee at Chattanooga, avoiding the Lookout altogether, and follow its right bank to Crow creek, passing near Hornbacker's mill and crossing the Sequatchee on the Rutledge lands—or, keep the east side of the river, and passing under the cliffs of Lookout mountain enter Lookout valley, and thence up this to the defile leading into Running water valley, and along this to the Tennessee near Gardenhier's ferry. Thence along the river banks to Nichajack Cave, where we enter Hog-jawbone valley, and pursue it near the base of the Raccoon mountain until we again strike the river at the foot of Long Island. The road may either cross the river at this point, or follow its left bank farther down, and thence pass over to the valley of Crow creek. This route is about 16 miles shorter than that by the river, but encounters gradients at the Lookout mountain of 63 feet per mile: which, however, may be reduced to 45 feet, by a bolder and more expensive line, thrown upon the escarpments of the mountain.

As the route by Running Water was examined more carefully than by the river, I have founded the estimate of the cost of the road upon it, though the latter, notwithstanding its increased length, will, it is thought, prove the least expensive.

After entering Crow creek valley, the route will pass over an even surface, with favorable gradients, until it reaches Mr. Walker's, where the ascent of the mountain is commmenced and overcome by a continuous inclination of 1·9 per 100 feet for 4¾ miles, to the entrance of the tunnel. At this point the road will attain the elevation of 1156 feet above the ocean, and pass through the mountain by a tunnel 2100 feet in length, and thence descend by a similar or easier gradient, of about two miles in length, to the Boiling Fork of Elk river.

A tunnel of 2100 yards in length, would pass through the mountain nearly upon a level with its western base, an ascent of only 325 feet from the foot of the eastern slope, which could be overcome by the general maximum gradient used upon the remainder of the route.

The construction of a railroad across the mountain at this point, is much less difficult than upon any of the routes proposed to connect the Atlantic with the Mississippi valley, and also overcomes a much less elevation. The height of the shortest tunnel above the ocean being but 1156 feet, while the Central railroad of Pennsylvania, on its most favorable route, will encounter an elevation of 2183 feet, and the Baltimore and Ohio road 2370 feet at the tunnel, which is 400 feet below the apex of the mountain.

The descent from Montgomery's Gap brings us upon a comparatively level region, which skirts the whole western slope of the mountain, and is about 350 feet above its eastern base. This elevated plateau is in fact a branch of the main mountain, extending in width in the direction of Nashville, to the ridge dividing Elk and Duck rivers, where the face of the country suddenly drops off, between 200 and 300 feet, and thence gradually descends towards the Cumberland; its general character being a plane, crossed by several high and broken ridges, interspersed with a number of mounds or knobs, offering no material obstruction to the easy graduation of the road.

The route examined through this region, after leaving the mountain, passes 2¾ miles above Winchester, and crosses Elk river between Spring and Taylor's creeks, and thence follows the ridge, dividing these streams, to the head of the latter, whence it passes across some of the flat branches of Rock creek, and intersects Elk ridge at Montgomery's.—Thence the descent from this step of the mountain is effected, at the general maximum gradient, along the valley of Norman's creek without encountering much expensive work, reaching the plane below at the Barren Fork of Duck river. The line of survey follows this stream to the Three Forks, thence up the Garrison to War Trace, and along the latter to Bell Buckle, at the head of which it passes the high ridge parting the Stone and Duck river waters, at a point where it is entirely severed, admitting a very easy ascent to the summit.

From Bell Buckle summit, the descent to the Stone river waters, is at 42 feet per mile, over an even surface, passing in the vicinity of Fosterville, and south of Lee's knob.—Thence the country offers no further difficulty until we reach the ridge dividing Stewart's and Hurricane creeks, where there may be some expensive work. The line traced crosses this ridge at Captain Oliphat's and then passes over even ground to the ridge between Hurricane and Mill creeks, which it crosses at the head of Collins' creek, and thence follows the favorable slopes of the latter to Anticoh meeting house. Whence the general course of Mill creek is pursued to Whitset church, where it leaves it, and passing in the vicinity of Mr. Raines', crosses Brown's creek and enters Nashville.

Between the Tennessee river and Nashville, the line surveyed is quite straight. The face of the country, after passing the mountains, will admit of a number of other practicable routes, some of which have been examined instrumentally. The line already described was traced, after a full reconnoisance of the country, and without reference to any local considerations, being governed by the character of the ground, and its advantages with reference to the trade and travel passing between its terminii. I was not sufficiently conversant with the products and population of the region which may be made tributary to the road, to enable me to deter-

mine how far its general directness could be sacrificed to the local trade, with a view to its greatest profitableness to the stockholders, and consequent usefulness to the community. Upon a full examination of this subject, in all its bearings, it is probable that many deviations from the line surveyed will be found advisable.

A route leaving the Tennessee valley by Battle creek, or little Sequatchee river, would save from 10 to 15 miles of distance, but would have to overcome an additional ascent of between 800 and 900 feet, which is equivalent to about 34 miles of increased length of road, making the longer line in the cost of transit over it, much the least expensive, and practically, some 20 miles the shortest.

The following condensed statement will exhibit the cost of the road, upon the preferred route. I have not thought it necessary to trouble you with the details of the estimate:

ESTIMATE.

Graduation, bridging and tunneling.....	$1,440,000
11,750 tons of railroad iron.....	940,000
Iron chairs, spikes and bolts.....	76,000
Cross ties, ground sills, etc.....	92,000
Laying superstructure.....	78,000
Engineering and contingencies.....	184,000
	$2,810,000

Of the above amount you will perceive, that there is not much over one-half due to the physical difficulties of the country. The remainder is chiefly the cost of the superstructure, which is mainly dependent upon the quantity, and price of iron, its chief constituent. The estimate is predicated upon an T rail weighing 75 tons per mile, laid upon cross-ties 2½ feet apart from centre to centre, supported throughout by heavy ground sills.—This plan will give a superstructure amply sufficient to sustain the traffic that may reasonably be expected upon the road. In addition to the cost of the road, there will be required for the purchase of locomotives, and construction of cars, shops, warehouses, water stations, and overseer's dwellings, the further sum of $320,000.

The whole length of the road will be 152 miles, the general maximum gradient 42 feet per mile; or a rise of 8·10 in 100. This gradient is exceeded, at the Cumberland and Racoon mountains only; at both of which, as I have before observed, a resort to a steeper inclination may be avoided. The first, by a tunnel of 2100 yards long, and the other following an almost level route, along the bank of the river. The longer tunnel would add fully $300,000 to the cost of preparing the road bed, while the annual cost of supplying the necessary auxiliary locomotive power for the higher gradient, (upon the line estimated,) would not exceed $5000, and this engine could be employed during the intervals of passing the trains, in carrying the coal cars to the central depot opposite Winchester.

The increase in the length of the route by Montgomery's Gap, over a straight line between Nashville and Chattanooga is about 38 miles, which is by no means a larger increase than is usual in passing a mountain region. On the proposed Central railroad of Pennsylvania, from Harrisburg to Pitsburg, the increase on the most direct route of the several surveyed, is 77 miles, or an addition of 48 per cent.; while on that portion of the Baltimore and Ohio railroad, now in use, east of the mountains, the increase is over 66 per cent. Whether this ratio is increased or diminished between Cumberland and the Ohio, I am not able to state.

The southerly detour in the line, which is necessary to pass the mountain, at its low depression, is not without its counterbalancing advantages. In addition to the greater extent of mineral and fertile region, thereby accommodated, the route, is thrown within a distance of Huntsville, which will render a communication with that important section of country, by a branch intersecting it near Winchester, not only more feasible as an outlet to the Atlantic than any other; but it will at the same time give them a connection with New Orleans, through Nashville, inferior to none that has been suggested.

If it should become necessary—from a failure to raise the means to complete the whole enterprize at once—to stop at any intermediate point, a good communication could be maintained with the Georgia improvements, by steamboats on the Tennessee, if the road should be carried no further than from Nashville to its banks. The cost of this portion of the line—116 miles in length—may be stated at $1,950,000. The navigation of the Tennessee between this and Chattanooga, can be accomplished with light steamboats at all seasons, and during the winter and spring, by boats of large burthen. The only obstructions of importance, are encountered in passing between Walden's Ride and Racoon mountain; where the contracted channel of the stream, at the "Suck" and "Pot"—the first during low water and the latter at higher stages, renders the ascent in consequence of the rapidity of the current difficult. The depth of water at all seasons, at these points, is ample, and the impediments to the navigation involve simply the question of time, the process at present adopted to draw the boat through the current, is tedious, and could, if the trade should increase sufficient to justify it, be superceded by the use of mechanical means, that would render certain, and greatly reduce the time now consumed in passing them.

This partial execution of the projects should be adopted as a temporary expedient only: the completion of the whole enterprize to be carried forward as early thereafter as practicable. In any event it would be the most judicious policy to pursue this plan, as the majority of the line could at once be brought into profitable use.

It is not the province of the engineer, to submit estimates of the probable profits of a railroad, unless founded upon specific data, in relation to the transportation and travel, that may be expected upon it; though it has frequently been their practice, to indulge in such calculations. I am not, however, in possession of statistical information, that will enable me to do justice to the subject, and I shall therefore prefer, simply refering to the fact, that there is no instance in the United States, where a railroad, that has been "judiciously located, and economically constructed," that has not on completion proven a good investment of capital. The Georgia railroad—with which I am more familiar than any other—traverses a country compared with that over which your road will for the most part pass, would seem but a barren waste, has never yielded less than six per cent. net profits, and this has been accomplished, with its connections incomplete, encountering strong competition from rival works, and burthened with over 40 miles of unproductive branches. If results like these have been obtained under such circumstance, by a road through a country sparsely peopled, and possessing no coal or other mineral to swell its business, relying mainly for support, upon its local trade and travel; what may you not reasonably expect, from the completion of your road, whose western terminus is the depot of an agricultural region, unrivalled for the extent of its contiguous fertile lands, and the abundance and variety of their products, and which for the most of its length, traverses this rich and populous region, and for the remainder of the distance, a mineral district abounding in iron ore and coal, the latter of which, of itself, affords ample business for many of the northern railroads.

But any calculations of revenue founded upon the present statistics of the country, will present but a partial exhibit of the business that will follow the execution of your enterprize, as railroads have, to a very considerable extent, the property of creating their own transportation. Products of the soil, mines and quarries, which, in consequence of the cost of their transportation to a market, are now enumerated in the schedule of the wealth of the State, will then be brought into use to an extent of which we can at present realize but a faint conception. In no section of the Union has nature distributed with a more bountiful hand the various elements of manufacturing prosperity, than upon the line of this road, and no where will their development add more largely to the population and wealth of the adjacent country, and consequently to the travel and transportation upon a road through it.

The rapid development of the hidden wealth of a mineral region, through the influence of internal improvements, will be better appreciated from the consideration of the fact, that the products of the coal fields of Pennsylvania, but 25 years since, were less than those of Tennessee at the present time. Now, they yield annually upwards of 2,500,000 tons, worth, delivered at the sea board, $10,000,000. As large as this sum appears, it is still small compared with the product of manufacturing industry, called into activity by the use of coal, and to the success of which it is now an indispensable element. The extraordinary increase in the value of the mineral region of Pennsylvania, is not more striking than was the effect of the completion of the Erie canal, upon the agricultural prosperity of Western New York, or the Western railroad upon the increase of the population and wealth of Boston. These are not isolated cases—similar prosperity has every where

attended those countries traversed by these improvements, and in proportion to the productiveness of the soil, and the abundance of its mineral resources are their benefits felt.

That there will be a connection between the south Atlantic coast and the great West at an early period, no one acquainted with the extent and importance of the interests to be beneficially affected by it can for a moment doubt—and that the route of your road is the most advantageous for such a communication is equally clear. Through the Cumberland it brings the mouth of the Ohio—the heart of the west—more than 700 miles nearer to the Atlantic, than by any of the present avenues of commerce, an advantage which must claim for the line, a large share of the travel and transportation of the products and consumption of the Mississippi valley. It would seem unnecessary, however, to go beyond the country which now makes Nashville its market, to find ample business to justify the construction of this railroad—opening as it does to Middle Tennessee, a direct route to consumers of her present products, distributing them through Alabama, Georgia, Florida and Carolina, by means of the net work of railroads diverging from Atlanta the Atlantic end of the Georgia State railroad—leaving out of view the foreign market for Indian corn, her great staple, which will find at Charleston and Savanna a cheap and ready transit to Europe.

The improvements in machinery and construction of railroads, have been so great within the last few years, that all other artificial mediums of transportation have nearly ceased to be considered as rivals, and many of the natural channels of trade now offer but a feeble competition for the products that formerly floated upon their currents. In fact, the causes which have heretofore tended to fix, and seemingly render permanent, the location of cities, have in a great measure lost their influence, and hence it has become the part of wisdom, in those interested in sustaining the present depots of commerce, to call to their aid this comparatively new agent—availing themselves of its powers to preserve and increase their prosperity rather than permit it to minister to the rise of other and rival cities.

In conclusion, I will add that the considerations in favor of the construction of this work, are so strong—its "value to the farmer, mechanic and traveller so clear," and its importance to the continued prosperity of your city, so manifest, that I cannot for a moment believe, that there will be lacking the enterprize or the means, necessary to carry it through, when the subject shall be properly brought before the citizens of Tennessee. Its construction need not be a drain upon their resources. A proper application of their time and labor will enable them to complete most of the graduation and superstructure without materially interfering with its ordinary operations; and the iron may be made within the State, upon more favorable terms than it can be procured from any other quarter, leaving but little cost to be expended for foreign labor or materials, and making its construction add to the activity of the population and the early development of the resources of the State.

I take this occasion to acknowledge the hospitalities extended to myself and assistants by the citizens of Tennessee, upon the line of our survey. It has been my fortune to have been professionally engaged in nearly every section of the Union, but I have no where met with so cordial a welcome, or observed such strong feeling manifested in favor of any enterprize as by the people generally, for this.

The immediate direction of the instrumental examinations was committed to Theodore S. Garnett, C. E. of Virginia, who carried forward the survey, with great perseverance and energy, accomplishing a vast deal of work with very limited means.

All of which is respectfully submitted, by

Your obedient servant,

JOHN EDGAR THOMSON,
Civil Engineer.

Foreign Items from the English Papers.

Wheel Tires—Accidents on Railways.—Sir—I observed in your valuable Journal of the 30th ult., some remarks by "Nauticus," respecting the cause of the accidents which has recently occurred on the Great Western railway, in which he mentions the insufficient manner in which the tires of the locomotive wheels are put on—of which I have exactly the same opinion. It is my belief, that if the ring of the wheel were made a little concave on the outside—say 3-16 of an inch for the centre of concave, which is not a great deal, allowing the ring to be six inches wide—by this construction, the tire would not slip off the ring by any lateral pressure on the flange; likewise, the tire should be made a little convex on the inside, in order to make it fit firmly on the ring.—Perhaps some will think that the tire could not be put on the ring sufficiently tight in adopting this plan, and that the tire would not grasp firm enough about the ring; but I have reason to think it will—that is, by means of the tire being sufficiently thick, and heated as hot as it will bear, without injuring the tire—it will expand and contract enough to bring it quite firm about the ring. I think it is very possible to put up the tires too tight; the iron, not allowed to have its natural contraction, gets crippled, and loses its tenacious properties. I believe that iron has a certain point of contraction to give its greatest tenacious gripe, without injuring its cohesive quality; and, as before stated, tires put on the rings of wheels so tight as not to give the iron its proper contraction, weaken it, and make it more liable, by lateral pressure and friction, to slip off, than if put on (if I may term it) tight, and that's all—so I cannot perceive there is any great difficulty in putting on the tires in the manner described: even a very small cavity in the ring, in my opinion, would prevent the tire from losing its grasp.—T. B. UREN. *Camborne, Feb. 9.*

Protracted Progress of the Railway System.—Had it not been for the force of prejudice, we might have had the railway system in active operation at a much earlier date, and that even in its present form it was but the chance of votes of one or two directors that secured its advancement in 1829. All the main lines of railway now existing were projected in 1824 and 1825, and might have been executed before 1830, instead of lingering till nearly the present day; public and legislative ignorance, however, stood in the way, and it cannot be denied that the country has thereby been kept back for many years in its prosperity and advancement. To show more fully the operation of the retarding force of prejudice, we shall give the dates of many railway inventions and the dates of their recognized use:

1754 flanged wheels . . .	adopted	1815
1789 edge rails	"	1815
1803 malleable iron rails . .	"	1830
1820 parallel rails	"	1835
1804 locomotive engines . .	"	1821
1825 do. for passengers .	"	1834

In 1804 we had maleable iron rails, flange wheels, and the locomotive. We had, in fact, all the elements of the railway system; and had they then been fully adopted, their development must have been much more rapid than it has since been. In 1814, a speed of 20 miles an hour would have been gained by George Stephenson, and we should be at least 20 years in advance. Every part of the system has, however, been kept back by errors and prejudice; and the exertions of Richard Trevithick and George Stephenson retarded by the ignorance and want of reasoning power of their professional brethren. No theorem can be proved more effectually than that the railway system of 1825–1835 might have been carried out in 1805–1815, and it presents one of the clearest cases to be found in economical history of the prejudicial postponement of a valuable institution.—*Railway Register.*

Institution of Civil Engineers—Feb. 9.—Sir J. Rennie (President) in the Chair.—The paper read was a description of the "Helder, or Great North Holland Canal," by George B. W. Jackson, Assoc. Inst. C.E. This canal was constructed by the late Mr. J. Blanken, engineer, during the six years between 1819 and 1825, for the passage of frigates and first class merchantmen, and extends from Amsterdam to Niewwediep, in the Texel. The state of the navigation through the Zuiderzee, in the early part of the 17th century, having become so defective, in consequence of accumulated sand banks and shoals, that camels were necessarily made use of to lift the vessels over the shallows at Pampers, thereby incuring both extreme loss of time and inconvenience. the Dutch government deemed it necessary to consult Mr. Blanken on the possibility of remedying the evil. The engineer accordingly projected the above canal, which has three divisions, the summit level being only 3 ft 8 in. above the outlets; its length is 51 miles; it is 123 ft. 7 in. broad at top, 30 ft. 10 in. at bottom, and 20 ft. 6 in. deep. The pile driving and boring experiments undertaken by him to ascertain the probability of success, show that the original sea shore, being the only really hard ground in the north of Holland, is to be met with at 43 feet under the present surface

of the ground; and, as the foundations of the locks were laid nearly at that depth, the result of the experiments were considered to afford sufficient guarantee for the stability of the works. The character of the soil in that part of Holland is exceedingly treacherous; and it reflects great credit on our foreign neighbors, that they were able to overcome the various difficulties with which they had to contend.

The constructions generally consist of floating and swing bridges, tide locks, passage locks, etc. The floating bridges are peculiar, on account of their flexibility, consisting of two platforms, one fixed on each shore on piles—the end of each of which is worked by sets of double levers, and resting on two boats—so that, when the bridge is required to be opened, both boats are withdrawn, one towards each shore. The Willem lock is 297 ft. 8 in. long, 51 ft. 5 in. wide—the height of the lock wall being 32 ft. 6 in., and the gates being each 29 ft. 5 in. by 29 ft. 4 in. The total cost amounted to £1,500,000 sterling. The time required by vessels to make the passage from Amsterdam to the Helder, varies according to their size and the means of haulage; fly-boats with 6 relays of 4 horses each, making it in 10 hours —whilst large East Indiamen require 2, 3, and 4 days, according to the wind. The details of construction of the whole of the works were given very freely, and with illustrative drawings. In the discussion which ensued, it was stated, that the canal in this country, which could be contrasted with that of the Helder, was the Caledonian canal, which was projected upon a report by Watt, commenced by Jessop, and in a great part constructed by Telford, a few years previously to the Helder canal. The principal difference between the two consisted in the nature of the ground through which they were cut; the former being excavated entirely out of alluvial deposit, whilst the latter had to be cut out of hard gravel, and, in some cases, rock. An interesting account was given of the mode of forming the spot for the entrance lock at the Inverness and of the Caledonia canal. The object was to carry the work out into deep water. A large mass of earth was deposited in the sea to the full extent intended; upon this mound, a heavy load of material was laid to consolidate the mass.—After settling for a considerable time, the upper mass was removed, the excavation was made for the lock pit, and the construction was effected with comparative facility, and had endured much rough weather since without any symptoms of failure. The superincumbent weight which was removed, being greater than any subsequent strain, there was no danger of the lock ever sinking. The discussion was adjourned until the next meeting (Tuesday, Feb. 16th,) when it was announced that the second part of the paper would be read, treating of "the Method of Forming Fascine Embankments, and Sea Defences."

Andraud's Railway.—We were present three days ago at a practical experiment with a new system of railroad, the invention of M. Andraud, on a convenient piece of ground at No. 4 Passage Cendrier, near the Rue du Rempart. M. Andraud is well known to the public by the experiments which he has performed in the 7 years during which he has been endeavoring to bring the system of railroad travelling by means of compressed air into perfection; but it is only now that he can be said to have arrived at such a point as to be able to exhibit a practical proof of his success, and at the same time remove the objections which have been started to his system. He has laid down a piece of railway about 100 yards, on which is an elegant carriage, impelled by compressed air with a smoothness totally unknown on the ordinary railroads; and, as the air is compressed to only one atmosphere, there is not the slightest danger to the passengers. There is no locomotive, the carriage or carriages—for they may be any number—being impelled by means of a tube laid in the middle of the road, and a pipe by the side, which keeps up the motive power. Independently of the safety to travellers by this system, which has all the advantages of the atmospheric railroads now in use, and none of their disadvantages, which are numerous, the construction of a road on this principle is, we are assured, of a very small cost, as compared with that of a railroad for locomotive engines, and there is an enormous economy in the working. As compared with the expense of the atmospheric principle, which is being established on the St. Germain railroad, the cost of working would, it is declared, be as 1 to 10; and we were assured by some engineers who were present at the experiment, that even as compared with the locomotive engine principle, there would be a saving of at least one half, as the wear and tear of engines is avoided, none being used, and the air is compressed at a very small cost, which was long the desideratum of this system. We hope these statements may be realized; for if they are true, M. Andraud's system must be adopted. The rate of speed may be regulated with care from 15 to 50 miles an hour, or more if required.

Railways in India.—In the House of Commons, on Tuesday evening, in answer to a question from Lord Mahon, Sir J. C. Hobhouse said, that the report of the railway commission, sent out in June, 1845, was presented to the Board of Control on the 4th of July, 1846, and he had no objection to its being laid on the table, together with a minute of the Governor-general, and other communications. He said further, that the East India company and the board had agreed, on certain conditions, to propose to railway companies, but it was not yet known if they had been accepted.

Continental Glass Manufactories.—The first window glass manufactory in the province of Hainault commenced in 1625—soon after which two others followed, and there are now no fewer than 36 houses in full blast: 16 work 8 pots, employing 128 blowers; 26 with 6 pots, and 120 blowers; 36 with three stokers; 36 glass cutters and 15 potters—the total cost being £43,384 per annum. There are five new glass houses being built for 1847, and two new companies forming to commence extensive works in every description of glass. The coal, charcoal, sand, etc., used in the glass manufacture is immense.

Improvement in the Treatment of Ores.—We have heard that within the last few weeks, a new process has been introduced by Mr. Oxland, of Plymouth, for the removal of wolfram, a mineral consisting principally of tungstate of iron, from tin ores, by means of which the tin is obtained in better condition, and the tungstic acid is also rendered available for manufacturing purposes. Thus, a substance, which has hitherto been injurious to the produce of tin ores, is actually rendered valuable—at the same time, the quality of the tin is improved. This application has been practically introduced at Drake Walls Tin Mine, near Gunnis Lake, on the river Tamar. The wolfram is found in considerable quantities in Drake Walls.

Railway Traffic Returns.—From these returns, it will be seen, that the amount of traffic for the last week, on nearly 2,730 miles of railway, was £133,282, thus accounted for: £65,524 for the conveyance of passengers only, £39,106 for the carriage of goods, and a remainder of £28,652 for passengers and goods together, not respectively apportioned; being an increase over the corresponding week of last year of £17,753, when the mileage was about 1,920.

Chester and Holyhead.—There are now 500 masons employed by the contractors for raising the piers for the iron tube over the Menai Straits, about to be erected at the Britannia Rock. These men are earning from 5s. to 6s. per day.

Central Railroad.

The following statement of the receipts of the Central railroad, for the month of February of each of the last three years, shows a most gratifying increase of the business of the concern.—*Savannah Rapublican.*

	1845.	1846.	1847.
Passengers.....	$4,649 75	$4,459 25	$6,321 05
Freights.....	30,422 65	14,910 00	35,565 54
Mail.....	1,315 00	1,715 00	1,715 00
Total.....	36,787 40	21,084 25	44,601 53

Railroads at the Eastward.

The railroad "fever" in Maine has not yet subsided—and we are glad to learn, as we do from the journals, there, that the interest in this subject does not flag, as yet. The Augusta Journal, commenting upon the intended progress of railroads in Maine, says—"After we get a road from Portland to Augusta, the work on which will be commenced as soon as the snow is off and the frost is out, the next step will, no doubt, be the road to Skowhegan.—There is a great water power at that place, and so there is at West Waterville on the outlet of Snow Pond, not to mention Ticonic Falls on the main river, already famous far and near. We are told a very level road may be had to Skowhegan, from which place there can be no difficulty in carrying the road further up the river hereafter. We have strong faith to believe it will be carried as far as Anson in a few years. Equally strong is our conviction that a road will be made on the Androscoggin, from Bath to Livermore or Canton—perhaps further up."

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AMERICAN RAILROAD JOURNAL.

Published by D. K. MINOR, 105 Chestnut St., Philadelphia.

Saturday, April 17, 1847.

Kennebec and Portland Railroad.

The attention of contractors is called to the notice for letting 28 miles of this road on the 15th of May next. It will also be observed that 21 miles more will be ready for bids by 15th June. This looks well for our eastern friends. They are resolved to make good in New England, what has been well said in *old* England, viz: "that the railway system will progress until every town, of any considerable note, has its railway facilities."

TO CONTRACTORS.—KENNEBEC AND PORTLAND RAILROAD.—Proposals will be received at this office until the 15th of May, for the *Grading and Masonry* of 28 miles of this road, extending from North Yarmouth to Bowdoinham, and the Branch Road from Brunswick to Bath, including the masonry for the Bridges across the Androscoggin, New Meadows and Cathance rivers. The line of road and the plans and profiles will be ready for examination on the 10th of May; after which time any information in relation to the work can be had at this office, or of the Resident Engineers on the line of the road.

Persons unknown to the officers of the company, must accompany their bids with satisfactory evidence of their ability to execute the work.

The remainder of the line from Bowdoinham to Angusta, 21 miles, will be ready for contract about the 15th of June; of which due notice will be given.

GEO. S. GREENE, Eng. K. & P. R. R.

Engineers Office, K. & P. R. R. }
Brunswick, Me., April 6, 1847. } 1m16

Massachusetts Annual Reports.

We give, this week, another of the Massachusetts Annual Reports.

Nashville and Chattanooga Railroad.

Some of our readers will probably recollect that we endeavored, some time since, to urge the importance—especially to Nashville and Middle Tennessee—of the early construction of a railroad from the Tennessee river—at the termination of the Georgia railroads—to Nashville, and thence to the Mississippi river. By refering to the Railroad Journal for 16th and 23d of October, 1845, and other numbers, it will be seen that we have devoted considerable space to, and took a warm interest in, such a work. And it affords us much pleasure now to refer again to the subject, and to lay before our readers the Report of J. Edgar Thomson, Esq., who has recently completed the preliminary surveys of the route from Chattanooga to Nashville. This report, it will be seen, makes out a very favorable line—the greatest elevation being only 1165 feet above *tide* water, with only two tunnels.

The *estimated* cost is $3,810,000, for 152 miles—an amount too low, we think, under present circumstances, as the price of iron *must* be *higher*; yet, as Mr. Thomson intimates, the work *may* be done by their own people, and the *iron* may be made within the State, thus giving additional employment to the people, and new investment to their capital—and therefore there should be no delay in the movements of those who *see*, and *feel*, and *appreciate*, the value of a well constructed railroad, through that region of country, to the people of Tennessee.

The views, and suggestions, of the engineer, are those of a gentleman of great experience in the construction of railroads, through a thinly settled country, and they are therefore, in relation to this particular work, entitled to high respect—and we know of few men, indeed, who are better qualified to carry them out, with limited means, than Mr. Thomson.

Central Pennsylvania Railroad, *And its Chief Engineer.*

We find in the U. S. Gazette of Saturday last, the following paragraph, viz:

"The Pennsylvania Railroad Company.—We learn that the Directors of this company held a meeting yesterday for the purpose of making choice of Engineers, and their election fell as follows;

John Edgar Thomson, Chief Engineer.
Edward Miller, } Associate Engineers.
William B. Foster, Jr. }

"These gentlemen are eminent in their profession, and under their direction the work cannot fail to be of the most approved character. The organization being now completed, so far as the principal officers are concerned, we may look for a speedy commencement of operations."

We agree with the Gazette, that if indomitable perseverance, in connection with other necessary qualifications, is any recommendation to a man, then has the company made a good selection of a chief engineer—with the other gentlemen we are less acquainted—yet report speaks well—and we look with confidence to a speedy commencement of the work, and eminent success in its completion.

Table of Railroads.

The following letter contains several corrections to our "Table of Railroads," worthy of note, for which we are obliged to the writer. If others, who have information of this kind, will take the trouble to put it in shape, and send it to us, we shall be able to add greatly to the value of the table. In relation to the query of the writer, as to the propriety or economy of constructing "cheap roads," to be worked by horse power, connecting villages—3 to 10 miles distant—with *main* lines of railroad, we can only say that such experiments have not, we belive, been very successful where attempted. *Temporary* roads require constant and heavy repairs, in proportion to their cost—and we seldom find, even small villages inclined to be satisfied with any thing less than their more important neighbors.

As to the merits of the "*Forwarding*" as carried on by the "Market street" gentlemen, upon the "*State Works* of Pennsylvania," we cannot say much—not being at all acquainted with its results, but we are quite sure that such a system will not work *smoothly* on roads managed by a company—Nor, indeed, do we think it *can* work well on *any* railroad, where there should be the *strictest* discipline among the subordinates—and the most perfect harmony between all the different departments—which cannot be where there are several distinct interests: as there must be where there are several distinct companies, or individuals working the road.

As to the "division of benefits," arising from the operations of railroads, we are decidedly of the opinion that those who *use* them—either for *travel* or *transportation*—to any considerable extent—come in for a larger "share of benefits" than those who invest their capital. The man who travels from Boston to Buffalo—or any equal distance—or sends a *ton* of freight on a railroad, derives more benefit than the man who owns $250 of stock in almost any railroad in the country—especially if his *time* is of any value. And as to the term "*monopoly*," as applied to railroads generally, it has no meaning, as every man who desires, can own stock—and there is but *one* single case within our knowledge, in the country where competing lines may not be built, if the business *requires*, and the *people* will build them; therefore they are not monopolies—as the term is usually understood.

The question "why can you not publish a monthly volume, as is done in London," etc., may be well answered in the Yankee manner—viz., by asking another—why will not the people in this country, interested in railroads, *sustain* the *publisher* of such works, *as they do* in England? When they will, *then* they can have them.

Railroad Table Correction.

Hanover, N. H., April 3, 1847.

Editor of the American Railroad Journal:

Sir—According to a request you made in the Journal of the 13th, of "*each* of your readers," I beg leave, as one of the unprofessional readers, to make some additions for your "Table of Railroads," etc.

No. 11. Central—10. Connecticut River, Burlington, Vt.

This is all right as far as the continuous line from Boston to Burlington is concerned—but the Central extends to from where No. 10 joins it (on the west bank of the Connecticut river, and to and *at* the mouth of White river) in the valley of the Connecticut, to *Windsor*, 14 miles. The Sullivan railroad joins No. 11 here, and extends, *in N. Hampshire*, to the intersection with the Cheshire—No. 15—before it crosses to Bellows Falls Village. As the west boundary of the New Hampshire extends to the Western bank of the Connecticut, the point of union between a Vermont and a New Hamphire road, is at the line; and the bridging of the Connecticut river is done by the New Hampshire road.

There is a road not in your list—called, if I mistake not, the "Boston, Concord and Montreal." This is now under construction from Concord to Meredith, and is independent of the Northern, No. 10.

The "Connecticut and Passumpsic railroad," from Canada line in Derby, has had a little work done upon it in Bradford, Vt. It is, however, still undetermined, by what route it shall be connected with Nos. 10 and 11—whether on the Vermont side of the Connecticut, to White river, or crossing at Oxford, N. H., come down via Lyme and Hanover to No. 10, in the valley of the Connecticut river.—The expense of a bridge at Oxford, must, I think, be much less than of one over White river.

There is a road now under survey (or was last fall) from Greenfield, Mass., to Brattleboro, Vt., not in your list.

A connected view of *all* the railroads from the N. York and New Haven, up the Connecticut valley, to Canada line, would be useful to New England and New York *business men*.

In 1829-30-31, I was acquainted somewhat with a small, but very useful, road from the Goochland coal pits, in Virginia, to James river, (north side.) This was of a very honorable order—bar iron on wooden rails—narrow track—a few (6 or 8?) miles in length—and cost, if I recollect, about $1000 a mile. This, on account of its *early* construction, might be worthy of notice—and a query, whether small villages within 3 to 10 miles of a main track, should not be encouraged to build cheap roads to connect with this, to be worked with horse power. Information upon the cost of construction of such roads would be valuable to the community, as with a road of easy grade, the business of a village might be most economically transacted.

What are the merits of the system of "*Forwarding*," so conspicuous in Market street Philadelphia, in connection with the Pennsylvania railroads?—

Might it not be usefully adopted in New England and pay a fair business commission to thousands not of the *corporation*, and *thus*, by division of benefits, interest a larger number of citizens in the support of railroads, and diminish greatly the opposition to them as monopolies. * * *

Why can you not publish a monthly volume, as is done in London? about 4 by 5 inches (or 5 by 5) of all the railroads in the land—*distances*—*fares* and *times* through, and intermediate, connections, etc.—with a map. Such a manual, I believe, has a great sale abroad, at depots and in trains of cars, and includes all *European* roads. Is not No. 31 of your Table finished? Cars have run through since last November.

Petersburg and Greensville and Roanoke Railroads.

OFFICE PETERSBURG RAILROAD CO.
March 27, 1847.

DEAR SIR—I send you the following items concerning the *Petersburg* and *Greensville and Roanoke Railroads*, to fill up the blanks in your table of "Railroads in the United States:"

Petersburg Railroad runs to *Weldon*, N. C., and not Blakley, as in the table.

Gross revenue for 1845.....$147,620 50
Net revenue for 1845..... 68,990 34
Dividend 5 per cent.
Gross revenue for 1846.....$163,092 20
Net revenue for 1846..... 75,960 97
Dividend 6 per cent.

Greensville and Roanoke Railroad.

Gross revenue, 1845.....$25,368 94
Net Revenue, 1845..... 6,074 86
Dividend none.
Gross revenue, 1846..... 27,364 21
Net revenue, 1846..... 7,507 48
Dividend none.

The profits of the Greensville and Roanoke railroad are applied to paying off the debt. Up to July, 1846, $54,365 of the debt had been paid off, reducing the debt to $25,109.

The Petersburg company, besides paying dividends as above, is paying off about $30,000 of its debt per annum. The debt will all be paid off this year. I remain, respectfully, yours,

H. D. BIRD, President.

☞ The above statement is very acceptable. It enables us to correct errors and make additions.—Will others, who have the means, do likewise?

Central Ohio Railroad.

It will be seen from the following letter, that there is a movement in Ohio for a railroad from the Ohio, at Pittsburg, or Wheeling, in the direction of Columbus. This is a matter of course. There must be a railroad through that part of the State, intersecting all the other works between the lake and the Ohio, and we hope to hear soon that the entire line is under contract. *Philadelphia should look to it.*

"I take the liberty to enclose to you, says the writer, by to-day's mail a charter granted by our last Legislature for the "Central Ohio Railroad Company." It looks to a connection, as you will see, with either Philadelphia, by way of Pittsburg and the "Pennsylvania Central Railroad," or Baltimore, via Wheeling, or near there, and the Baltimore and Ohio railroad.

"The latter, as being already partly in operation, appears the most likely to progress to its termination, and completion—and, consequently, our people look to that as the most probable point of termination.

"An engineer will commence a survey of the route from Newark to Zanesville on the 1st of March—with a view to locate the road. Beyond the object of keeping you advised of the progress of railroad matters here, my aim in writing you at this time, is to call your attention, and through you the attention of other citizens of Philadelphia, and Pennsylvania, to the advantages to a commercial Eastern city of a continuous railway passing through such a portion of productive country as the Muskingum, Licking, Sciota and Miami valleys, in this State, to Cincinnati, and thence to St. Louis. An article in your Journal of the 13th February, from a New Orleans paper, shows the estimate which they place upon it. A proper attention to this matter at Philadelphia and Pittsburg will secure this trade. If they neglect it, others will profit by that neglect, and secure the results.

"I write this much, that the matter of such importance may be placed before those persons who will take an interest in it, in proportion to its moment.

"Is there any certainty that your "Central road" will be made? If there is not, (as some say,) then we do not wish to go to Pittsburg—and we must look to a communication with the Baltimore and Ohio railroad."

In reply to the question of our correspondent, we unhesitatingly say that the "Central railroad" *will be built*, and that, too, with very little delay.

Troy and Greenbush Railroad.

The following statement exhibits the number of passengers, and the amount of passenger and freight earnings, for each month from the opening of the road to the close of the year 1846.

	Date.	1845. No.	1845. Amount.	1845. Freight.	1846. No.	1846. Amount.	1846. Freight.
	Jan'y.	.....	.....	.....	10,729	$1,335 90	$1,597 94
	Febry.	.....	.....	.....	9,580	1,192 94½	1,310 25
	March	.....	.....	.....	12,905	1,603 35	1,383 60
	April.	.....	.....	.....	21,134	2,627 42½	1,171 81
	May...	.....	.....	.....	21,827	2,611 47½	1,020 02
	June...	*3,429	$425 62½	$37 98½	25,381	3,141 22	879 71
	July...	15,811	1,968 37½	218 80½	32,204	4,000 41	925 73
	August	16,191	1,994 04½	290 83	28,219	3,601 74	930 29
	Sep...	18,434	2,271 26	545 35	26,091	3,724 21½	933 52
	Oct...	18,270	2,249 84	577 40	22,925	3,347 65	1,698 65
	Nov...	17,215	2,124 11½	617 51	18,620	2,741 83	1,570 69
	Dec...	9,361	1,167 60	1,359 44	10,430	1,738 94	2,601 48
		98,711	$12,200 86	$3,647 32	240,036	$31,966 50	$16,023 69

* Road opened for travel June 13th, and until July 4th, only two trips each day were made.

From January 1st to August 17th, the fare over the road was 12½ cents. From that date to December 7th, it was 15 cents. From that time it has continued at 20 cents.

Trade of the Central Railroad.

We lately published a statement from an English journal, in reference to the vast amount of live stock conveyed to London upon the principal railways entering that city. A writer in the Philadelphia United States Gazette, urging the importance to Philadelphia of a continuous railroad connection with Pittsburg, estimates the number of beef cattle that would pass over the road from Pittsburgh to Philadelphia at 50,000 per annum; for each of which, it is stated, the drovers would willingly pay $10—making an aggregate of $500,000, from this item alone. It is believed, too, continues the writer, that 500,000 barrels of flour would seek an Atlantic market by the contemplated railroad; and the receipt from the transportation of foreign emigrants from the seaboard to the west is set down as an item of considerable importance.

Cost of Canal Repairs.

We find in the last number of the Rochester Democrat, the following tabular statement in reference to a subject of interest at this time. It contains much interest to those who desire to offer proposals for portions or sections of canal repairs—as it gives the *average cost of repairs per mile*, for several years:

	Erie.	Oswego.	Cayuga & Seneca.	Chemung.	Crooked Lake.	Chenango.	Genesee Valley.
1828	$513	$239	....	....	....	....	....
1829	529	361	386	....	....	....	....
1830	461	349	247	....	....	....	....
1831	382	254	152	....	....	....	....
1832	743	340	243	....	....	....	....
1833	746	313	274	666	....	....	....
1834	976	338	401	691	231	....	....
1835	893	453	440	259	445	....	....
1836	704	1,434	1,358	261	592	....	....
1837	830	1,608	1,297	393	776	201	....
1838	851	1,371	861	364	556	214	....
1839	676	679	1,063	391	444	177	....
1840	827	915	1,124	335	592	159	195
1841	581	694	633	631	1,129	160	290
1842	732	827	719	933	1,014	195	341
1843	676	623	497	386	505	155	292
1844	844	752	656	344	493	164	299
1845	907	1,227	945	485	595	195	325
1846	843	1,409	560	395	663	190	334

The Western Telegraph.

MR. CASE—one of the proprietors under the patentees—comes out in a late number of the Cincinnati Inquirer, with an explanation and statement, finally agreed upon, in regard to the Western and Southwestern lines of telegraph, the existence of which has not only hitherto retarded the progress of the work west of Pittsburg, but induced many to doubt whether it would not be abandoned. It seems now almost certain, says the Cincinnati Gazette, that we shall have a line in operation to this city in July next; for surely, the patentees will not refuse their assent to an arrangement which secures them advantages from early construction and in the adjustment of law suits, equal to any thing they give up to effect the settlement

The plan for making a separate company for constructing the line from Pittsburg to Cincinnati and Louisville, secures the application of the funds raised along that line to its construction and support, and, by bringing the force of both Mr. O'Reiley and Mr. Case to engage, at the same time on different parts of the same line, the early completion of the whole is made sure.

The forming of a distinct company to construct the line from Louisville to New Orleans, in like manner secures the application of the funds raised on that line to its construction, and places in the subscribers the control of it when done. The same is the case on the line from Louisville to St. Louis.

The connection on all these lines with each other, is provided for; and the connection is also secured with the Buffalo line, with the Pennsylvania line, and with the lines east from Washington to Baltimore, Philadelphia, New York, and Boston, and even to Quebec. The stockholders are protected from responsibility beyond the amount they subscribe, and there is little room to doubt that the stock will yield a large profit as an investment.

There is no doubt now that we shall soon have intercourse with New Orleans, by means of this in-

vention. The subscriptions in New Orleans, to the stock of the company, who propose to construct the telegraph between that city and Washington amounted, at the last accounts, to $60,000.

St. Louis Railway.

The Senate of Illinois postponed indefinitely the bills allowing the right of way to the St. Louis and Cincinnati railway, which had previously passed the House. The Legislature has since adjourned, and does not assemble again short of two years, unless specially convened, therefore the right of way question may be considered as settled for the time being. The people of Alton, Ill., seem well pleased, says an exchange, with the defeat of this St. Louis project, so called, as one designed to prejudice the Illinois city for the benefit of the foreign city of St. Louis! The route from Vandalia east to Terre Haute, would be about the same, whether the road terminated at Alton or St. Louis. Now if foreign capital can be made available to construct that part of the road common to both cities, much against the interest of the State of Illinois, along the general line, to reject this capital, and go without any road, because the same capitalists are unwilling to raise money to continue the road thence to a terminus on the Mississippi, where they have no interests. We see no good objection to allow each city to connect with the common line. The question with Alton, in that case should be, will Alton be more benefitted by a railroad connecting it with the Atlantic, if St. Louis has one also, than *without any road at all*.

Railroads in Ohio.

The people of the "Buckeye" State have at length become aroused to the importance of railroad communication over the extent of that rapidly growing region—and public meetings are being held at different points, to consider the subject, in earnest.—The question is embodied in the contest for the approaching election there, and we perceive by the Ohio papers, that the motto, "railroad or no railroad" is a common affair. The Ohio State Journal, at Columbus, one of the leading publications, says:

"The steam is rising. The people of Columbus, who have been sleeping so profoundly, while the enterprize of their neighbors has been actively employed, are now beginning to arouse themselves, to shake off their lethargy. But they seem to awaken from their Van Winkle repose, to adjust some ancient fued which had occupied their attention previous to their slumbers; and their wrangling about 'South End,' and 'North End,' is unintelligible jargon to one who has not been familiar with their household affairs for years past. No matter—let them settle all these affairs to their own liking, so that they be prepared to act efficiently and in concord, when the day for action arrives.

"Knowing nothing of the merits of the abstruse questions which seem to divide our fellow citizens into geographical '*enders*,' we can of course take no part in such controversies; and yet we could do no less than allow their respective claims to be heard through our columns, couched as they are in respectful and temperate language. We would fain hope that by such discussion and mutual explanation, an harmonious understanding may be attained, and that all ends of the city may vie with each other in advancing the common welfare. Personally, we have little or no interest involved in the question of *tax* or *no tax*, *railroad* or *no railroad*, which is submitted to the electors of this city and county for their decision on next Monday week; and we have too much respect for the understanding of the electors aforesaid, to suppose that they cannot discern their own interests, without any promptings from us.

"We will barely remark in this connection, that the question for us to decide is not whether railroads shall or shall not be constructed in our vicinity. That question is already decided, and placed beyond our control. Such roads will be made—*are now making*; and the question for us to determine is, simply *whether we will be partakers in the benefits resulting from their construction?* Shall Columbus be a commercial mart, where the people of the country shall find a ready sale for their produce, and which shall diffuse the benefits of its capital and enterprize all around? Or, shall it and its inhabitants be made tributary to Newark, or Berkshire? Let that question be understood and decided."

Plank Roads.

We have published several paragraphs, and have alluded often, latterly, to the interest which is evinced —in the State of New York particularly—in reference to the subject of *plank roads*. This subject is exciting a deep interest in the minds of many friends of internal improvements in this country; and, as it has been, by the recent action of the New York Legislature, placed more permanently before the public, a sketch of the history and adaptedness of such roads for convenience and utility will not be unacceptable to our readers.

The system of plank roads originated, we believe, in Canada, in 1835, and owes its existence to the difficulty experienced by the commissioner of highways to better the condition of a few rods of quicksand. After trying various expedients without success, he finally conceived the idea of sinking heavy timber and planking it, similar to bridging, except that he filled the vacancy between the sleepers, or sills, with stone and earth. He watched the operation of it with interest, and found that he had overcome the quicksand trouble. He then tried the experiment over a marshy soil, and it worked well; and from these he conceived of the efficacy of a common road made of plank.

A company was formed soon after, says a writer in the Merchants' Magazine, for the construction of a plank road from Toronto to the river Rouse, which was finished in 1839. It met public expectation.—Another was built from Whitly to Lake Ontario; one from London to Godrich; another from Coburg to Rice Lake; one finished from the rapids, on the St. Lawrence, from Coto de Lac to ———, about 16 miles long; and one from Longuile to Chambly, commencing three miles below Montreal, which is 15 miles long. They have been sufficiently tested to the satisfaction of all, as being the best roads ever made for ordinary passage, and capable of being used next to railroad, in expedition to travel.

In the United States but little has ever been known of them, until three years ago, except by visiters to Canada, who always spoke of them in high commendation. The Rochester Democrat, in 1843, contained several letters in reference to them, written by a gentleman of that city, who was travelling through Canada. The letters were extensively copied by the press, and the adoption of them urged. Since then charters have been obtained for the construction of three roads in the State of New York viz: one from Buffalo to Aurora; another from Buffalo to Lancaster: the third from Salina to Brewerton. The last mentioned is the only one now constructed in the United States. It is 12¼ miles long. George Geddes, of Onondaga county, was the engineer. As the subject is becoming a topic of much interest throughout this State, the mode of construction is of interest. We extract from a letter of Mr. Geddes to a friend:

"The planks are of hemlock, eight feet long, and four inches thick, laid crosswise of the road, on sills four inches square. The earth is broken up and made fine, the sills are bedded into it, and the surface graded smooth; the plank are then laid on the sills, care being taken that the earth is up to and touches the plank at every point. This is important, for if any space be left for air under the plank, or alongside the sills, dry rot follows. I saw, in Canada, a road that had been worn out, and was being re-built. The sills were good, and the plank were sound on the under side, save where air had supplied the place of earth, and there they were destoyed by rot. The plank having been laid, the next thing is to grade a road, some ten or twelve feet wide on one side, and two or three on the other, by taking earth from the ditches on each side, and bringing it, by a ditch-scraper, just up to and even with the upper side of the plank, so that if a wheel runs off the track, it passes upon a smooth surface of earth. The ends of the plank should not be laid even, buf a part should project from two to four inches by the general line, to prevent a rut being cut just along the ends of the plank. If the ends of the plank are even, and a small rut is made, the wheel of a loaded wagon will scrape along the ends for some distance before it will rise up to the top of the plank, unless the wagon moves in a direction nearly across the road; but if the wheel cannot move two feet forward without coming square against the edge of a projecting plank, the difficulty of getting on the road is avoided. It is not necessary to pin or spike the plank to the sill.

"Perfect drainage must be secured, and to that end the ditches must be deep and wide, and good sluices wherever water crosses the road. This is the important point—drain perfectly.

"As to the cost of such a road, I will answer you by giving you a copy of my estimate of the Salina road, which very considerably exceeded the actual cost. It is proper to inform you that this road was made upon the bed of an old road, filled in many places with stone and logs. The right of way cost us nothing. The estimate was for plank three or four inches thick. Where we laid two tracks, we laid one of them with three inch plank, but the main track was four inches thick. It is economy to use thick plank, if the travel is sufficient to *wear* out the road, but if it is to rot before it is worn out, then, of course, thin plank should be used. The Canada roads are generally three inches thick, and are made of pine, and last about eight years.

The following is the estimate of the cost of a single track of plank road, eight feet wide for one mile:

Sills 4 inches by 4 inches	14,080 ft. bm.
8 feet width of plank 3 in. thick	126,720
	140,800 feet, at
$5 per thousand	$704
Laying and grading, $1 per rod	320
Engineering, superintendence, etc., 10 per cent.	102
Gate houses, say	100
For 4 inch road, add 42,240 feet, at $5 per M.	211
Sluices, bridges and contingencies	63
Total	$1,500

The Longuil and Chambly plank road in Canada, was re-laid the past season, after a wear of eight years. The income of the road paid a dividend of 10 per cent. on the cost of the first construction, and reserved a sufficient sinking fund to pay for re-building.

Fourteen applications are made to the present session of the New York Legislature, for charters to build roads of this description—four of them to lead from the city to Rochester.

Baltimore and Ohio Railroad Report.

(Continued from page 236)

STATEMENT D.

Tabular Statement, exhibiting in detail the operations and various actual expenses of working the "Main Stem" of the Baltimore and Ohio Railroad, during the year ending Sept. 30th, 1845—and the amount of receipts for transportation of passengers, tonnage, mails, etc., during the same period.

HEADS OF EXPENDITURE.	Miles run by locomotives. With Passenger Trains.	With tonnage & company's materials.	Total.	Number of passengers carried one mile.	Cost per Passenger per mile.	Cost of conveying passengers.	Number of tons carried one mile.	Cost per ton per mile.	Cost of transporting tonnage	Aggregate cost of working the road.
Motive Power by Steam—including actual cost of repairs and renewals of locomotives and tenders ($40,312 68)—fuel, (6,811½ cords of wood and 5,437·8 tons of coal, including cost of preparation for engines, $29,464 77)—oil for locomotives and tenders, (6,849 gallons, $6,061 36)—cotton waste, (6,807 pounds, $330 78)—and wages of enginemen and firemen (24,072 78)	150,572	408,146	58,718	9,155,325	0·295	$27,015 32	11,157,931	0·656	$72,227 07	100,242 47
Motive power by horses—in the streets of Baltimore				112,595		*6,693 69	119,522		*11,436 64	17,830 33
Totals and averages of motive power				9,267,920	0·373	33,709 01	11,277,453	0·748	84,363 69	118,072 70
Repairs of railway, less cos of repairing breaches ($313 49) and including decrease in value of stock for repairs ($706 15)					0·258	23,871 65		0·574	64,705 88	88,577 53
Repairs and renewals of bridges, (less cost of improvements and increase of stock of repairs, the first being $14,802 11, and the latter, $3,643 49					0·108	9,990 54		0·240	27,080 10	37,070 64
Repairs of depots					0·020	1,865 33		0·045	5,056 09	6,921 42
Repairs of water stations, less increase of stock for repairs, $500					0·003	276 50		0·007	749 44	1,025 94
Pumping water					0·007	621 20		0·015	1,683 80	2,305 00
Watching bridges					0·020	1,800 13		0·043	4,879 37	6,679 50
Repairs and renewals of cars, corrected for difference in value of materials for repairs on hand at the commencement and close of the year, and embracing $1,970 94 for repairs of coal cars, which item was included in that of "Coal Trade," in the secretary's statement					0·119	11,020 36		0·241	27,227 75	38,248 11
Transportation department, embracing salaries of superintendent, agents and clerks, ($9,071 21)—conductors and brakemen of passenger trains, ($4,667 59)—burden trains, ($7,523 85)—labor at depots, ($5,387 85)—oil and greese for cars, ($3,457 22)—and contingencies, ($5,719 12)					0·118	10,956 49		0·128	24,569 35	35,525 84
General expenses, which embrace salaries of president, secretary, and clerks in secretary's office, office rent, counsel's fees, taxes, insurance on property, etc					0·025	2,375 91		0·057	6,440 08	8,815 99
	150,572	408,146	558,718	9,267,920	1·041	$96,487 12	11,277,453	2·188	246,755 55	343,242 67

* These expenditures include the cost of conveying passengers and tonnage through the streets of Baltimore, for the Washington Branch road, as well as those of the main stem.

REMARKS.

Besides the tonnage transported above, and for which the company have received pay, there have been hauled of materials for repairs of railway and bridges, and of fuel for locomotives, etc., equivalent to 762,224 tons one mile;—which amount, if added to the 11,157,931 tons hauled one mile by locomotives as above stated, and their sum divided by the number of miles run by locomotives with tonnage trains, will show the average net load of each engine to have been 29·2 tons, which is 7·53 tons greater than the average of the previous year.

There have been carried over the Winchester and Potomac railroad, in the cars of this company, equivalent to 507,420 tons one mile.

The average number of passengers in each train has been 61.

The average charge for the transportation of tonnage 3·106 cents per mile.

The average charge for the conveyance of passengers, 3·151 cents per mile.

The average cost for repairs and renewals of locomotives, 7·215 cents per mile run with trains.

The average charge for transportation, exclusive of coal, 3,488 cents per mile, run with trains.

The average cost of running the trains, exclusive of horse power in the streets of Baltimore, has been 58 2-10 cents per mile.

The average cost of running the trains, inclusive of horse power in the streets of Baltimore, has been 61 3-10 cents per mile.

The expenditures common to both passenger and burden traffic, have been divided in the proportion of the number of miles run by locomotives, with the trains of each description; the greater speed of the passenger trains being considered as fully, if not more than equivalent, to the somewhat greater average weight of the tonnage trains.

JAMES MURRAY,
Engineer of Machinery and Repair.

RECEIPTS AND EXPENSES.

Received for the conveyance of passengers,		$291,011 55
" " transportation of tonnage,		350,308 11
" " " United States mail,		43,305 00
" " use of main stem to relay house by passengers Washington branch,		33,128 93
" " " " " " tonnage " "		15,188 29
" " tolls upon Harper's Ferry viaduct,		1,436 82
" " use of cars on Winchester and Potomac railroad,		3,224 48
		$738,603 18
Expended for the conveyance of passengers and mails,	$96,487 12	
" " transportation of tonnage	246,755 55	
		343,242 67
Showing the net revenue to have been,		$395,360 51
To which, in order to show the same results as exhibited by Statement B, in the 19th Annual Report of the Baltimore and Ohio Railroad Company:		
Add cost of repairs of coal cars, which item is included under the head of "Coal Trade,"		1,970 94
And amount of decrease in value of materials on hand for repairs of railway and burthen cars,		1,067 32
Making together an aggregate value of		$398,398 97
And deduct therefrom, extraordinary expenses, as follows, viz:		
Expenditures within the year, for repairs of breaches in the road by freshets, west of Harper's Ferry,	$313 49	
For permanent improvement in bridges, and increase in stock of materials, for their repair,	18,445 60	
For increase in the stock of materials for repairs of water stations,	500 00	
" " " " " " passenger cars,	208 91	
For increase in duplicate parts of, and permanent improvements in locomotives,	4,169 03	
		23,637 03
Surplus same as shown by statement B, above referred to,		$374,761 74

MASSACHUSETTS ANNUAL RAILROAD REPORTS.

Return of the Connecticut River Railroad Co., under the Act of April 16, 1846.

Capital stock		$1,000,000 00
Increase of capital since last report		
Capital paid in, per last report	477,156 50	
Capital paid in since last report	160,753 50	
Total amount of capital stock paid in, [see below	637,910 00	
Funded debt, per last report		
Funded debt paid since last report		
Funded debt, increase of, since last report		
Total present amount of funded debt, [see below	167,000 00	
Floating debt, per last report	25,000 00	
Floating debt paid since last report		
Floating debt, increase of, since last report	175,760 96	
Total present amount of floating debt, [see below	200,760 96	
Total present amount of funded and floating debt.	367,760 96	
Average rate of interest per annum on do	6 per cent.	

COST OF ROAD AND EQUIPMENT.

For graduation and masonry, per last report	159,046 42	
For graduation and masonry, paid during the year	132,639 82	
Total amount expended for graduation and masonry		$291,685 24
For bridges, per last report	18,200 00	
For bridges, paid during the past year	14,666 99	
Total amount expended for bridges		32,866 99
For superstructure, including iron, per last report	165,388 81	
For superstructure, including iron, paid during the the past year	234,627 97	
Total amount expended for superstructure, including iron		400,016 78
For stations, buildings and fixtures, as per last report	22,055 05	
For stations, buildings and fixtures, paid during the past year	29,476 88	
Total amount expended for stations, buildings and fixtures		51,531 93
For land, land-damages and fences, per last report.	94,831 98	
For land, land-damages and fences, paid during the past year	52,857 36	
Total amount expended for land, land-damages and fences, [including over $50,000 for depot lands, a large part of which will be realized from sales.		147,689 34
For locomotives, per last report	15,300 00	
For locomotives, paid during the past year	13,000 00	
Total amount expended for locomotives		28,300 00
For passenger and baggage cars, per last report	4,300 00	
For passenger and baggage cars, paid during the past year	7,200 00	
Total amount expended for passenger and baggage cars		11,500 00
For merchandize cars, per last report	5,000 00	
For merchandize cars, paid during the past year	3,190 00	
Total amount expended for merchandize cars		8,190 00
For engineering and other expenses, per last report.	27,451 37	
For engineering and other expenses, paid during the past year	11,310 23	
Total amount expended for engineering and other expenses		38,761 60
Total cost of road and equipment, [exclusive of interest		$1,010,541 88

CHARACTERISTICS OF ROAD.

Length of road	35·9 miles.
Length of single track	38·05 miles.
Length of double track	
Length of branches owned by the company, stating whether they have a single or double track:	2·35, single track.
Weight of rail per yard in main road	56 pounds per yard.
Weight of rail per yard in branch roads	56 lbs. per yd. [places.
Maximum grade, with its length in main road	18, 9 miles in 7 separate
Maximum grade, with its length in branch roads	18, 6200 feet in 2 separate
Total rise and fall in main road	354 feet. [places.
Total rise and fall in branch roads:	28 feet.
Shortest radius of curvature, with length of curve in main road	900, curve 700 feet long.
Shortest radius of curvature, with length of curve in branch roads	714, curve 1300 feet long.
Total degrees of curvature in main road	1321.
Total degrees of curvature in branch roads:	449.
Total length of straight line in main road	26 1-8 miles.
Total length of straight lines in branches:	1 mile.
Aggregate length of truss bridges	2170 feet.
Whole length of road unfinished on both sides	

DOINGS DURING THE YEAR.

Miles run by passenger trains, [carrying freight	59,825
Miles run by freight trains, [separately	1,950
Miles run by other trains	750
Total miles run	62,525
Number of passengers carried in the cars	185,190
Number of passengers carried one mile	1,369,800
Number of tons of merchandize carried in the cars.	17,287
Number of tons of merchandize carried one mile	198,214
Number of passengers carried one mile, to and from other roads	
Number of tons carried one mile, to and from other roads	
Average rate of speed adopted for passenger trains, including stops	21·6 miles per hour.
Average rate of speed adopted for freight trains, including stops	15 miles per hour.
Estimated weight in tons of passenger trains, including engine and tender, but not including passengers, hauled one mile	1,854,575
Estimated weight of merchandize trains, including engine and tender, but not including freight, hauled one mile	437,925

EXPENDITURES FOR WORKING THE ROAD.

For repairs of road, maintenance of way, exclusive of wooden truss bridges and renewals of iron	$3,460 89	
For repairs of truss bridges		
For renewals of iron, including laying down		
For wages of switch-men, gate-keepers and flag-men	480 00	
For removing ice and snow	458 71	
For repairs of fences, gates, houses for flag-men, gate-keepers, switch-men, tool-houses		
Total for maintenance of way		$4,399 60

MOTIVE POWERS.

For repairs of locomotives	$1,999 08	
For new locomotives to cover depreciation		
For repairs of passenger cars	242 97	
For new passenger cars to cover depreciation		
For repairs of merchandize cars	247 94	
For new merchandize cars to cover depreciation		
For repairs of gravel and other cars	95 00	
Total for maintenance of motive power		2,584 99

MISCELLANEOUS.

For fuel and oil	4,947 82	
For salaries, wages and incidental expenses, chargeable to passenger department	5,340 18	
For salaries, wages and incidental expenses, chargeable to freight department	3,560 19	
For gratuities and damages	25 00	
For taxes and insurance		
For ferries		
For repairs of station building, aqueducts, fixtures, furniture	353 67	
For interest		
For amount paid other companies in tolls for passengers and freight carried on their roads, specifying each company		
For amount paid other companies as rent for use of their roads, specifying each company		
For salaries of president, treasurer, superintendent, law expenses, office expenses of the above offices, and all other expenses not included in any of the foregoing items	541 07	
		14,767 84
		21,752 43

INCOME DURING THE YEAR.

For Passengers:		
1. On the main road exclusively, including branch owned by company	39,756 09	
2. To and from other roads, specifying what		
For Freight:		
1. On main road and branches owned by company.	16,098 34	
2. To and from other connecting roads		
U: S. mails, express and rents	2,392 56	
Total income		58,246 99
Net earnings after deducting expenses		36,494 56

DIVIDENDS.

Surplus not divided.....Road completed in Nov.
Surplus last year.....Interest paid and due to stockholders on their assessments up to December 1st, 1846.
Total surplus.....

ESTIMATED DEPRECIATION BEYOND RENEWALS, VIZ:

Road and bridges.....
Buildings.....
Engines and cars.....

The foregoing return is for the year 1846.

The amount of capital stock, as above is	$1,000,000 00
Amount paid in as above	837,910
Amount due on old and new shares	162,090
Amount of stock reserved on account of funded debt	200,000
	1,000,000 00
The amount of floating debt, as above, is	200,760 90
Towards the payment of which there is due from stockholders, on the demand of the treasurer	162,090 00
The amount of funded debt, as above, is	167,000 00
To pay which, the company holds 2000 shares	200,000 00

The road has been open for the entire year, only to Northampton, a distance of 17 miles. On the 17th of August, it was opened to South Deerfield, about 11 miles further; and on the 23d November the entire road was in use.

The cost of running the road, including all expenses as stated above, has not exceeded 35 per cent. per mile run.

No passenger or person on the trains has received any serious injury during the past year. A young woman in Cabotville lost her life by stepping on the road only a few feet in advance of the locomotive. The train was moving slow, near the station, and the usual signals were given.

Erastus Hopkins, E. H. Robbins, Samuel Henshaw, James K. Mills.

January 28th, 1847.

BOUND VOLUMES.

Volumes of this Journal, for the Years **1838** *to* **1846**, *INCLUSIVE, may be had Bound, at Subscription Price, on application at this Office.*

MISSING NUMBERS

OF THE RAILROAD JOURNAL.

Subscribers, who wish to obtain Missing Numbers of Back Volumes of this Journal, will do well to apply immediately.

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RAILROAD IRON.—THE NEW JERSEY Iron Company, Boonton, N. J., are now preparing to make Railroad Bars, and are ready to take orders or make contracts for Rails, deliverable after the first of December next. Apply to

FULLER & BROWN, Agent,
No. 130 Greenwich, corner of Cedar street.
September 18, 1846. 1039

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only*. Address

SAM'L KIMBER & CO.,
Willow Street Wharf,
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BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 105 Chestnut street.

A. & G. RALSTON & CO., NO. 4 South Front St., Philadelphia, Pa.

Have now on hand, for sale, Railroad Iron, viz:
180 tons 2½ x ½ inch Flat Punched Rails, 20 ft. long.
25 " 2½ x ½ " Flange Iron Rails.
75 " 1 x ½ " Flat Punched Bars for Drafts in Mines. A full assortment of Railroad Spikes, Boat and Ship Spikes. They are prepared to execute orders for every description of Railroad Iron and Fixtures. 1tf

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

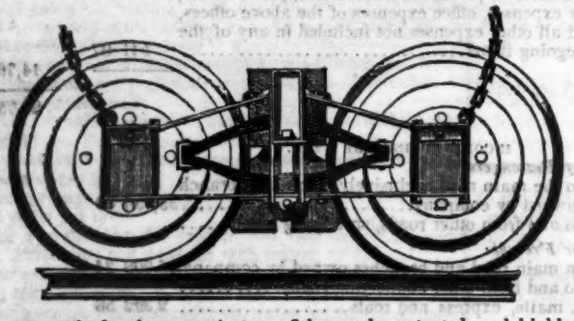
ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4½	13	5	10	24	–	50	15-16	20
13	3½	8	3	8½	16	–	27	11-16	13½
14	3½	6	11	7½	12	8	17	9-16	10½
15	2½	5	2	6½	9	4	13½	1-2	7½
16	2½	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAY'S EQALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL,
Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH,
1y19 Sup't Motive Power.

RICH & CO'S IMPROVED PATENT SALAMANDER SAFES.

Warranted free from dampness, as well as fire and thief proof.

Particular attention is invited to the following certificates, which speak for themselves:

TEST No. 10.

Certificate from Mr. Silas C. Field, of Vicksburgh, Mississippi.

On the morning of the 14th ult., the store owned and occupied by me in this city, was, with its contents, entirely consumed by fire. My stock of goods consisted of oil, rosin, lard, pork, sugar, molasses, liquors, and other articles of a combustible nature, in the midst of which was one of Rich's Improved Patent Salamander Safes, which I purchased last October of Mr. Isaac Bridge, New Orleans, and which contained my books and papers. This safe was red hot, and did not cool sufficiently to be opened until 16 hours after it was taken from the ruins. At the expiration of that time it was unlocked, when its contents proved to be entirely uninjured, and not even discolored. I deem this test sufficient to show that the high reputation enjoyed by Rich's Safes is well merited. S. C. FIELD.

TEST No. 11.—*Certificate.*

By the fire which occurred in this village on the 27th July last, our Law Office, together with many other buildings, was destroyed—we had in our office one of Rich's *Improved* Patent Salamander Safes, which, though heated red hot, preserved, without being the least damaged, many papers valuable to our clients—the envelopes of a few papers being *slightly* scorched. Some twenty-four hours after the fire, the Safe was removed, and so hot was it, that several hours were required for it to cool off. Our office was in the second story of a large brick building, all the wood used in construction of said house being *pitch pine.* While the Safe was red hot, one of the walls tumbled in, and so injured the lock that it was necessary to break the door open. From this test, we feel no hesitancy in recommending "Rich's Patent Salamander Safe" as *entirely fire proof.*

GOREE & KING.

Marion, Ala., Sept. 15th, 1846.

Still other Tests in the Great Fire of July 19, 1845.

The undersigned purchased of A. S. Martin, No. 138½ Water street, one of Rich's Improved Patent Salamander Safes, which was in our store, No. 54 Exchange place. The store was entirely consumed in the great conflagration on the morning of the 19th inst. The safe was taken from the ruins 52 hours after, and on opening it, the books and papers were found entirely uninjured by fire, and only slightly wet—the leather on some of the books was parched by the extreme heat. RICHARDS & CRONKHITE.

Benton, Miss., December 27, 1845.

One of Rich's Improved Salamander Safes, which I purchased on the 2d of June last of A. S. Marvin, 138½ Water street, agent for the manufacturer, was exposed to the most intense heat during the late dreadful conflagration. The store which I occupied, No. 46 Broad street, was entirely consumed; the safe fell from the 2d story, about 15 feet, into the cellar, and remained there 14 hours, and when found, I am told, and from its appearance afterwards, should judge that it had been heated to a red heat. On opening it, the books and papers were found not to have been touched by fire. I deem this ordeal sufficient to confirm fully the reputation that Rich's safe has already obtained for preserving its contents against all hazards. (Signed,)

WM. BLOODGOOD.

New York, 21st July, 1845.

Reference made to upwards of nine hundred and fifty merchants, cashiers, brokers, and officers of courts and counties, who have Rich's Safe's in use.

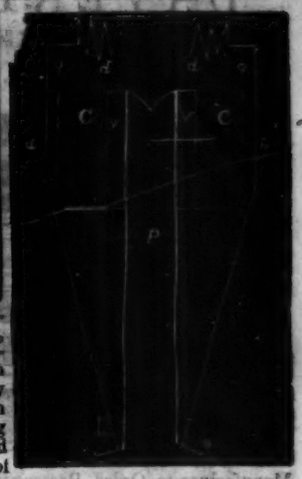
The above safes are finished in the neatest manner, and can be made to order at short notice, of any size and pattern, and fitted to contain plate, jewelry, etc. Prices from $50 to $500 each. For sale by

A. S. MARVIN, General Agent,
138½ Water st., N. Y.

Also by Isaac Bridge 76 Magazine street, New Orleans.

Also by Lewis M Hatch, 120 Meeting street Charleston, S. C. 16 tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.



TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved SPARK ARRESTER, recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger and freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliot, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
ja45 Paterson, N. J., or 60 Wall street, N. York.

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent.*

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand. ja45

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent,*
1y Albany Iron and Nail Works,

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.

Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

THE HERRON RAILWAY TRACK,

As seen stripped of the top ballasting

A GOLD MEDAL AWARDED THE INVENTOR BY THE AMERICAN INSTITUTE.

THE UNDERSIGNED RESPECTFULLY invites the attention of Engineers, and Railroad Companies, to some highly important improvements he has recently made in the Herron system of Railway structure. These improvements enable him to effect a very large reduction in the quantity of Timber, and cost of construction, without impairing the strength of the Track, or its powers of resisting frost, while they secure additional features of excellence in the Drainage and facility of making Repairs.

The above cut represents the "Herron Track" as it is laid on the Philadelphia and Reading, and on the Baltimore and Susquehanna Railroads. The intersection of the sills of the trellis are 5 feet from centre to centre, while in the new construction they are only 2½ feet. This renders the string piece unnecessary, thus removing the only objectionable feature found in the Track.

The result of experience has proved that all Tracks constructed with longitudinal timbers, such as mud sills, and more especially, the continuous bearing string pieces retain the rain water that falls between the Rails which, being thus confined, settles along those timbers, and accumulating in quantity flows rapidly along them on the descending grades, washing out the earth from under the timber, and frequently causing large breaches in the embankments of the road. Whereas all water intercepted by the oblique sills of the trellis, is discharged immediately into the side ditches.

In the 5 foot plan, the Track occupies a Road bed nearly 11 feet wide, while the new construction takes but 8 feet; the timber being more concentrated under the Rails. A block of hard wood, about 2 feet long and 15 inches wide, is introduced into a square of the trellis for the purpose of giving an additional, and effectual support to the joints of the Rails, which rest upon it. Should these joint blocks become chafed and worn by the working, and imbedding of the chairs, as is now the case on all Railroads, they can be readily replaced without any derangement of the timbers less liable to wear.

The following is a general estimate of its cost near the seaboard. In the interior it will be considerably less.

ESTIMATE OF THE PROBABLE COST OF ONE MILE.

4,224 Timbers, 11 ft. long, 3 x 6 inches = 68,696 ft. b.m., at $10 = ...	$686 96
587 Oak joint blocks 2 ft. x 3 x 15 in. = 4,403 ft. b.m., at $13 = ...	57 24
13,000 Spikes = 2,250 lbs. at 4½ cts	101 25
Workmanship free of patent charge.....	600 00
Cost of one mile including the laying of the Rail	$1,445 45

He has made other important improvements, which will be shown in properly proportioned models, that give a much better idea of the great strength of the Track than a drawing will do.

Sales of the Patent right to all the distant States will be made on liberal terms.

JAMES HERRON.
Civil Engineer and Patentee.
No. 277 South Tenth St., Philadelphia. 33tf

FRANKLIN HOUSE,

No. 105 Chestnut Street, Philadelphia.

The undersigned takes the liberty of calling the attention of the readers of the Journal to the fact that the *Office* is removed from New York to the FRANKLIN HOUSE, *Philadelphia*, where he will be always pleased to *meet* and *greet* them. They will not only find a pleasant *Reading Room*, with lots of *foreign* periodicals, treating of *Railroads* and *Machinery*, but they will always find *good-sized* and *airy* rooms—*clean beds*—and a *well supplied* table. If they would have further proof of this, they have only to call, and judge for themselves, and much oblige the proprietor, D. K. MINOR.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.

No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
1y25 28 Platt street, New York.

RAILROAD IRON.
MOUNT SAVAGE IRON WORKS

THIS Company are prepared to execute orders for RAILROAD IRON, of any pattern, and equa in point of quality to any other manufactured.

Address J. M. HOWE,
Pres't. Mt. Savage Iron Works,
Dec. 25, 1y* Maryland.

ENGINEERS and MACHINISTS.

THOMAS PROSSER, 28 Platt St. N. Y. (*See Adv.*)
J. F. WINSLOW, Albany Iron and Nail Works Troy, N. Y. (*See Adv.*)
TROY IRON AND NAIL FACTORY, H. Burden, Agent. (*See Adv.*)
ROGERS, KETCHUM & GROSVENOR, Patterson, N. J. (*See Adv.*)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (*See Adv.*)
NORRIS, BROTHERS, Philadelphia Pa. (*See adv.*)
FRENCH & BAIRD, Philadelphia. (*See Adv.*)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (*See Adv.*)
ROSS WINANS, Baltimore, Md.
CYRUS ALGER & Co., South Boston Iron Co.
SETH ADAMS, Engineer, South Boston.
STILLMAN, ALLEN & Co., N. Y.
JAS. P. ALLAIRE, N. Y.
PHŒNIX FOUNDRY, N. Y.
ANDREW MENEELY, West Troy.
JOHN F. STARR, Philadelphia, Pa.
MERRICK & TOWNE, do.
HINCKLEY & DRURY, Boston.
C. C. ALGER, Stockbridge Iron Works Stockbridge, Mass.